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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/561,457	Applicant(s) HIERTZ ET AL.	
	Examiner YU (Andy) GU	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-25 are presented for examination.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). A certified copy has been filed with the application on 12/20/2005.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claims 1-2, 4-6, 8-9, 17-20, 22-23 and 25** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, 17 and 25 each recites the limitation "said reservation request signalling reservation information". There is insufficient antecedent basis for this limitation in the claim. For the purpose of this examination, the Examiner interprets the limitation as "...said reservation request comprising reservation information...".

Claim 2, 6, 18, 20, 22 and 23 each recites the limitation "*said receiving station*". There is insufficient antecedent basis for this limitation in the claim.

Claim 2, 4, 6, 18 and 20 each recites the limitation "*said acknowledgement message*". There is insufficient antecedent basis for this limitation in the claim.

Claim 5, 6, 19 and 20 each recites the limitation "*said priority information*". There is insufficient antecedent basis for this limitation in the claim.

Claim 5 further recites "*the respective time period*", which also lacks antecedent basis.

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Claim 8 recites the phrase "e.g." renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim 9 recites the limitation "*said specific point in time*". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-4, 8-11, 13, 17-18 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6404756 B1 Whitehill et al. (hereinafter Whitehill) in view of US 5231634 A Giles et al. (hereinafter Giles).

Regarding **claim 1**, Whitehill discloses *a method of decentralized medium access control in a communications network consisting of a plurality of stations,*

- *wherein—a sending station transmits a reservation request (e.g. Request To Send or RTS) for a future transmission to an intended receiving station (see at least column 6 lines 30-37),*
- *said intended receiving station being in a reception range (e.g. node B receives from node A, therefore is in a reception range of node A) of said sending station (see at least column 6 lines 51-54),*

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- *defining a time period of said future transmission, and, in case of a multi-channel system, frequency or code of the channel of said future transmission, so establishing a reservation (see at least column 9 lines 51-61),*
- *and—stations active in said reception range overhear said reservation request and other stations than said intended receiving station perform the actions of storing said reservation information locally and defer from medium access during the time period and on the channel of the future transmission (see at least column 5 lines 21-28).*

Whitehill further discloses that the reservation request (e.g. RTS) includes duration of the transmission (see at least Figure 4a and column 6 lines 51-61). Whitehill is however silent as to *reservation request signalling reservation information including starting point*. However, in the same field of endeavor, Giles discloses a RTS including the starting point of a future transmission (see at least Giles column 6 lines 37-52, where Giles discloses a start point of transmission e.g. the end of the second “key up” time). It would have been obvious to a person of ordinary skill in the art to combine Giles's teaching in order to facilitate efficient signaling.

Regarding **claim 2**, Whitehill and Giles disclose the limitations as shown in the rejection of claim **1**. Whitehill further discloses:

- *wherein—said intended receiving station acknowledges said reservation request by returning a message (e.g. Clear-To-Send or CTS) repeating said reservation information (see at least column 6 lines 51-56 column 9 lines 51-61, where*

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Whitehill discloses a CTS repeating the actual parameters used for the reserved transmission);

- *and—other stations than the intended receiving station active in the reception range for transmissions of said receiving station perform the actions of storing said reservation information locally and defer from medium access during the time period and on the channel of the future transmission upon overhearing said acknowledgement message (see at least column 5 lines 21-28 and column 11 lines 26-44).*

Regarding **claim 3**, Whitehill and Giles disclose the limitations as shown in the rejection of claim **1**. Whitehill does not specifically disclose *wherein said reservation request is transmitted piggy-back to a data packet in a frame or in another signalling frame*.

However, Giles discloses a frame format wherein a reservation request (e.g. FC type being RTS) is piggy-backed to a data packet (e.g. data unit) (See at least Giles Figure 1 and column 4 lines 45-56). It would have been obvious to a person of ordinary skill in the art to combine Giles's teaching in order to facilitate efficient signaling.

Regarding **claim 4**, Whitehill and Giles disclose the limitations as shown in the rejection of claim **1** and **3**. Whitehill does not specifically disclose *wherein said acknowledgement message is transmitted piggy-back in an acknowledgement frame of said data packet or another data packet*. However, Giles discloses a frame format wherein a reservation request (e.g. FC type being CTS) is piggy-backed to a data packet (e.g. data unit) (See at least Giles Figure 1 and column 4 lines 45-56). It would have been obvious to a

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person of ordinary skill in the art to combine Giles's teaching in order to facilitate efficient signaling.

Regarding **claim 8**, Whitehill and Giles disclose the limitations as shown in the rejection of claim **1**. Whitehill does not specifically disclose *wherein the signalled starting point of said future transmission is defined relatively to a specific point in time associated with the reservation request message, like e.g. the beginning or end of the sending time or the beginning or end of the time slot of said reservation request, so that no global synchronization of clocks is required*. However, Giles discloses a RTS frame where the starting for transmission is defined relatively to a specific point time associated with the reservation request message (see at least Giles column 6 lines 37-52, where Giles discloses a start point of transmission e.g. the end of the second "key up" time). It would have been obvious to a person of ordinary skill in the art to combine Giles's teaching in order to facilitate efficient signaling.

Regarding **claim 9**, Whitehill and Giles disclose the limitations as shown in the rejection of claim **1**. Whitehill does not specifically *wherein said specific point in time, which serves as reference point for the definition of the starting time of the future transmission, is defined relatively to the beginning of the reservation request message and signalled inside the reservation request message*. However, Giles discloses a specific point in time (e.g. see Figure 4A, the beginning of second "KEY-UP"), *which serves as reference point for the definition of the starting time of the future transmission, is defined relatively to the beginning of the reservation request message and signalled inside the reservation request message* (see at least Giles column 6 lines 37-52). It would have

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been obvious to a person of ordinary skill in the art to combine Giles's teaching in order to facilitate efficient signaling.

Regarding **claim 10**, Whitehill and Giles disclose the limitations as shown in the rejection of claim **1** and **2**. Whitehill is silent as to the limitations of **claim 10**. However, Giles discloses *a starting point of the future transmission signalled in the acknowledgement message is defined relatively to the beginning or end of the sending time or the beginning or end of the time slot (e.g. see Figure 4A, the beginning of the third "KEY-UP") as a time base of said acknowledgement message and--adapting starting point information from said sending station to the time base of said acknowledgement message* (see at least Giles column 6 lines 37-52). It would have been obvious to a person of ordinary skill in the art to combine Giles's teaching in order to facilitate efficient signaling.

Regarding **claim 11**, Whitehill and Giles disclose the limitations as shown in the rejection of claim **1**. Whitehill further discloses: *wherein collisions of reservation requests are resolved by a collision resolution mechanism* (e.g. by having a dedicated reservation channel, see at least column 3 lines 29-36).

Regarding **claim 13**, Whitehill and Giles disclose the limitations as shown in the rejection of claim **1**. Whitehill is silent as to *wherein reservation information of a most recent reservation request replaces an existing reservation if the most recent reservation request has an earlier due time than the existing information*. However, it is obvious to a person of ordinary skill in the art that a reservation with an earlier due time requires more immediate attention of the participating stations (e.g. it requires channel

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resource at an earlier time period than requested by an existing reservation information, which may come in first but request a later due time) then the one with a later due time.

Therefore, in order to facilitate quality of service, it would have to been obvious to a person of ordinary skill in the art to modify Whitehill and Gilles to give the reservation with an earlier due time priority over the reservation with a later due time in order to facilitate quality of service.

Regarding **claim 17**, Whitehill discloses *a communications network consisting of a plurality of stations, including—*

- *a sending station which transmits a reservation request for a future transmission to an intended receiving station (see at least column 6 lines 30-37),*
- *said intended receiving station being in a reception range (e.g. node B receives from node A, therefore is in a reception range of node A) of said sending station(see at least column 6 lines 51-54),*
- *defining a time period of said future transmission, and, in case of a multi-channel system, frequency or code of the channel of said future transmission, so establishing a reservation(see at least column 9 lines 51-61),*
- *and--stations active in said reception range which overhear said reservation request, wherein other stations than said intended receiving station perform the actions of storing said reservation information locally and defer from medium access during the time period and on the channel of the future transmission(see at least column 5 lines 21-28).*

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Whitehill further discloses that the reservation request (e.g. RTS) includes duration of the transmission (see at least Figure 4a and column 6 lines 51-61). Whitehill is however silent as to *reservation request signalling reservation information including starting point*. However, in the same field of endeavor, Giles discloses a RTS including the starting point of a future transmission (see at least Giles column 6 lines 37-52, where Giles discloses a start point of transmission e.g. the end of the second “key up” time). It would have been obvious to a person of ordinary skill in the art to combine Giles's teaching in order to facilitate efficient signaling.

Regarding **claim 18**, Whitehill and Giles disclose the limitations as shown in the rejection of claim **17**. Whitehill further discloses:

- *said intended receiving station acknowledges said reservation request by returning a message(e.g. Clear-To-Send or CTS) repeating said reservation information(see at least column 6 lines 51-56 column 9 lines 51-61, where Whitehill discloses a CTS repeating the actual parameters used for the reserved transmission);*
- *and--other stations than the intended receiving station active in the reception range for transmissions of said receiving station perform the actions of storing said reservation information locally and defer from medium access during the time period and on the channel of the future transmission upon overhearing said acknowledgement message(see at least column 5 lines 21-28 and column 11 lines 26-44).*

Regarding **claim 25**, Whitehill discloses

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- *a station which transmits a reservation request (e.g. Request To Send or RTS) for a future transmission to an intended receiving station (see at least column 6 lines 30-37),*
- *defining a time period of said future transmission, and, in case of a multi-channel system, frequency or code of the channel of said future transmission, so establishing a reservation (see at least column 9 lines 51-61),*

Whitehill further discloses that the reservation request (e.g. RTS) includes duration of the transmission (see at least Figure 4a and column 6 lines 51-61). Whitehill is however silent as to *reservation request signalling reservation information including starting point*. However, in the same field of endeavor, Giles discloses a RTS including the starting point of a future transmission (see at least Giles column 6 lines 37-52, where Giles discloses a start point of transmission e.g. the end of the second “key up” time). It would have been obvious to a person of ordinary skill in the art to combine Giles's teaching in order to facilitate efficient signaling.

5. **Claims 5, 6, 12, 19 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Whitehill in view of Giles, and further in view of US 6704932 B1 Matsunaga et al. (hereinafter Matsunaga).

Regarding **claim 5**, Whitehill and Giles discloses the limitations as shown in the rejection of **claim 1**. Whitehill further discloses a scheme that allows prioritized access for the channel (see at least column 17 lines 57-61). Whitehill however does not specifically disclose *wherein said reservation request includes information on the priority or priority class of said future transmission*, and therefore further fails to disclose

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said priority information being used in that--active stations in said reception range of said sending station replace an existing reservation information stored for the respective time period by new reservation information of a most recently received reservation request, if the existing reservation request has a lower priority than the most recently received reservation request, and--the station that has been previously allocated the channel for the respective time period withdraws or delays its future transmission, if the most recently received reservation has a higher priority. However, in a related field of endeavor, Matsunaga discloses a reservation request (e.g. reservation information) includes information (e.g. identifier) on the priority class of a further transmission (see at least Matsunaga column 3 lines 60-67 and column 4 lines 1-20) and allocating band resource to reservation information (e.g. reservation request) with a higher priority over a lower priority one (therefore, the low priority request which may come in first is replaced by the high priority request which may come in second, and thereby delaying the band resource for transmission requested by the lower priority request, see at least Matsunaga column 8 lines 50-67 and column 9 lines 1-8). It would have been obvious to a person of ordinary skill in the art to modify Whitehill and Giles in view of Matsunaga to include priority information in the reservation request and use the priority information to facilitate quality of services.

Regarding **claim 6**, Whitehill and Giles discloses the limitations as shown in the rejection of **claim 1**. Whitehill further discloses a scheme that allows prioritized access for the channel (see at least column 17 lines 57-61). Whitehill does not specifically disclose *wherein said acknowledgement message includes information on the priority or*

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priority class of said future transmission, and therefore further fails to disclose said priority information being used in that--active stations in said reception range of said receiving station replace an existing reservation information stored for the respective time period by new reservation information of a most recently received reservation request, if the existing reservation request has a lower priority than the most recently received reservation request; and--that station that has been previously allocated the channel for the respective time period withdraws or delays its future transmission, if the most recently received reservation has a higher priority. However, in a related field of endeavor, Matsunaga discloses a signaling (e.g. reservation information, analogues to RTS, however, Whitehill teaches repeating in the acknowledgement message e.g. CTS the transmission parameters) includes information (e.g. identifier) on the priority class of a further transmission (see at least Matsunaga column 3 lines 60-67 and column 4 lines 1-20) and allocating band resource to reservation information (e.g. reservation request) with a higher priority over a lower priority one (therefore, the low priority request which may come in first is replaced by the high priority request which may come in second, and thereby delaying the band resource for transmission requested by the lower priority request, see at least Matsunaga column 8 lines 50-67 and column 9 lines 1-8). It would have been obvious to a person of ordinary skill in the art to modify Whitehill and Giles in view of Matsunaga to include priority information in the acknowledge message and use the priority information to facilitate quality of services.

Regarding **claim 12**, Whitehill and Giles disclose the limitations as shown in the rejection of claim **1**. Whitehill is silent as to *wherein a reservation request of shorter*

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duration of transmission replaces an existing reservation of longer duration of transmission. However, in a related field of endeavor, Matsunaga discloses allocating band resource to reservation request (e.g. reservation information) with a higher priority over a lower priority (see at least Matsunaga column 3 lines 60-67 and column 4 lines 1-20, column 8 lines 50-67 and column 9 lines 1-8), therefore it is obvious to a person of ordinary skill in the art that a reservation request with a shorter duration but a high priority will be first treated over (e.g. replacing, in the case where lower priority one comes in before the higher priority one) a reservation request with a longer duration but a lower priority, so as to facilitate quality of services.

Regarding **claim 19**, Whitehill and Giles discloses the limitations as shown in the rejection of **claim 17**. Whitehill further discloses a scheme that allows prioritized access for the channel (see at least column 17 lines 57-61). Whitehill however does not specifically discloses *said reservation request includes information on the priority or priority class of said future transmission*, and therefore further fails to disclose *said priority information being used in that--active stations in said reception range of said sending station replace an existing reservation information stored for the respective time period by new reservation information of a most recently received reservation request, if the existing reservation request has a lower priority than the most recently received reservation request, and--the station that has been previously allocated the channel for the respective time period withdraws or delays its future transmission, if the most recently received reservation has a higher priority.* However, in a related field of endeavor, Matsunaga discloses a reservation request (e.g. reservation information)

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includes information (e.g. identifier) on the priority class of a further transmission (see at least Matsunaga column 3 lines 60-67 and column 4 lines 1-20) and allocating band resource to reservation information (e.g. reservation request) with a higher priority over a lower priority one (therefore, the low priority request which may come in first is replaced by the high priority request which may come in second, and thereby delaying the band resource for transmission requested by the lower priority request, see at least Matsunaga column 8 lines 50-67 and column 9 lines 1-8). It would have been obvious to a person of ordinary skill in the art to modify Whitehill and Giles in view of Matsunaga to include priority information in the reservation request and use the priority information to facilitate quality of services.

Regarding **claim 20**, Whitehill and Giles discloses the limitations as shown in the rejection of **claim 17**. Whitehill further discloses a scheme that allows prioritized access for the channel (see at least column 17 lines 57-61). Whitehill does not specifically disclose *said acknowledgement message includes information on the priority or priority class of said future transmission*, and therefore further fails to disclose *said priority information being used in that--active stations in said reception range of said receiving station replace an existing reservation information stored for the respective time period by new reservation information of a most recently received reservation request, if the existing reservation request has a lower priority than the most recently received reservation request; and--that station that has been previously allocated the channel for the respective time period withdraws or delays its future transmission, if the most recently received reservation has a higher priority*. However, in a related field of

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endeavor, Matsunaga discloses a signaling (e.g. reservation information, analogues to RTS, however, Whitehill teaches repeating in the acknowledgement message e.g. CTS the transmission parameters) includes information (e.g. identifier) on the priority class of a further transmission (see at least Matsunaga column 3 lines 60-67 and column 4 lines 1-20) and allocating band resource to reservation information (e.g. reservation request) with a higher priority over a lower priority one (therefore, the low priority request which may come in first is replaced by the high priority request which may come in second, and thereby delaying the band resource for transmission requested by the lower priority request, see at least Matsunaga column 8 lines 50-67 and column 9 lines 1-8). It would have been obvious to a person of ordinary skill in the art to modify Whitehill and Giles in view of Matsunaga to include priority information in the acknowledge message and use the priority information to facilitate quality of services.

6. **Claims 7 and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Whitehill in view of Giles, and further in view of US 5960001 Shuffer et al. (hereinafter Shuffer).

Regarding **claim 7**, Whitehill and Giles discloses the limitations as shown in the rejection of **claim 1**. Whitehill is silent as to the limitations *wherein several periodic transmissions are signalled by a single reservation request and--a time period derived from reservation information of a reservation request of a first future transmission being interpreted as period also of the following future transmissions*. However, in a related filed of endeavor, Shuffer teaches a network terminal can reserves a periodic time slots for periodic transmission by transmitting reservation information (see at least Shuffer

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Abstract and column 3 lines 20-32, such periodic time slots are thus derived from the reservation information). It would have been obvious to a person for ordinary skill in the art to modify Whitehill and Giles in view of Shuffer in order to facilitate and improve the periodic transmission.

Whitehill further discloses *and--stations active in said reception range overhear said reservation request and other stations than said intended receiving station perform the actions of storing said reservation information locally and defer from medium access during all signalled time periods on all respective channels of the future transmissions*(see at least column 5 lines 21-28).

Regarding **claim 21**, Whitehill and Giles discloses the limitations as shown in the rejection of **claim 17**. Whitehill is silent as to the limitations *several periodic transmissions are signalled by a single reservation request and--a time period derived from reservation information of a reservation request of a first future transmission being interpreted as period also of the following future transmissions*. However, in a related filed of endeavor, Shuffer teaches a network terminal can reserves a periodic time slots for periodic transmission by transmitting reservation information (see at least Shuffer Abstract and column 3 lines 20-32, such periodic time slots are thus derived from the reservation information). It would have been obvious to a person for ordinary skill in the art to modify Whitehill and Giles in view of Shuffer in order to facilitate and improve the periodic transmission.

Whitehill further discloses *and--stations active in said reception range overhear said reservation request and other stations than said intended receiving station perform the*

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actions of storing said reservation information locally and defer from medium access during all signalled time periods on all respective channels of the future transmissions(see at least column 5 lines 21-28).

7. **Claims 14,15, 22 and 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Whitehill in view of Giles, and further in view of US 5633911 A Han et al. (hereinafter Han).

Regarding **claim 14**, Whitehill and Giles discloses the limitations as shown in the rejection of **claim 1**. Whitehill is silent as to a *revocation message*, and thus further fails to disclose *wherein--said sending station transmits a revocation message to said intended receiving station for the purpose of deleting one or several of its reservation requests; and--stations active in the reception range for transmissions of said sending station overhear said revocation message and other stations than said intended receiving station locally delete the corresponding reservation information*. However, in a related field of endeavor, Han discloses after requesting a channel for communication, sending a revocation message (e.g. cancellation request) to cancel the reservation (therefore deleting the reservation request) (see at least Han column 2 lines 54-60, column 4 lines 61-66). It would have been obvious to a person of ordinary skill in the art to modify Whitehill and Giles in view of Han to include a revocation message on the reservation channel (so other stations can hear and act accordingly, in the manner disclosed by Whitehill) in order to efficiently use the limited channel resource.

Regarding **claim 15**, Whitehill and Giles discloses the limitations as shown in the

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rejection of **claim 1**. Whitehill is silent as to a *revocation message*, and thus further fails to disclose *wherein--said intended receiving station acknowledges said revocation message by returning a message repeating said revocation information; and--other stations than the intended receiving station active in the reception range for transmissions of said receiving station perform the actions of locally deleting the reservation information corresponding to the revocation information*. However, in a related field of endeavor, Han discloses after requesting a channel for communication, sending a revocation message (e.g. cancellation request) to cancel the reservation (therefore deleting the reservation request), and an acknowledgement (e.g. cancellation confirmation) the revocation message (see at least Han column 2 lines 54-60, column 4 lines 61-66). It would have been obvious to a person of ordinary skill in the art to modify Whitehill and Giles in view of Han to include a revocation message acknowledgement on the reservation channel (so other stations can hear and act accordingly, in the manner disclosed by Whitehill) in order to efficiently use the limited channel resource.

Regarding **claim 22**, Whitehill and Giles discloses the limitations as shown in the rejection of **claim 17**. Whitehill is silent as to a *revocation message*, and thus further fails to disclose *said sending station transmits a revocation message to said intended receiving station for the purpose of deleting one or several of its reservation requests; and--stations active in the reception range for transmissions of said sending station overhear said revocation message and other stations than said intended receiving station locally delete the corresponding reservation information*. However, in a related field of endeavor, Han discloses after requesting a channel for communication, sending

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a revocation message (e.g. cancellation request) to cancel the reservation (therefore deleting the reservation request) (see at least Han column 2 lines 54-60, column 4 lines 61-66). It would have been obvious to a person of ordinary skill in the art to modify Whitehill and Giles in view of Han to include a revocation message on the reservation channel (so other stations can hear and act accordingly, in the manner disclosed by Whitehill) in order to efficiently use the limited channel resource.

Regarding **claim 23**, Whitehill and Giles discloses the limitations as shown in the rejection of **claim 17**. Whitehill is silent as to a *revocation message*, and thus further fails to disclose *said intended receiving station acknowledges said revocation message by returning a message repeating said revocation information; and--other stations than the intended receiving station active in the reception range for transmissions of said receiving station perform the actions of locally deleting the reservation information corresponding to the revocation information*. However, in a related field of endeavor, Han discloses after requesting a channel for communication, sending a revocation message (e.g. cancellation request) to cancel the reservation (therefore deleting the reservation request), and an acknowledgement (e.g. cancellation confirmation) the revocation message (see at least Han column 2 lines 54-60, column 4 lines 61-66). It would have been obvious to a person of ordinary skill in the art to modify Whitehill and Giles in view of Han to include a revocation message acknowledgement on the reservation channel (so other stations can hear and act accordingly, in the manner disclosed by Whitehill) in order to efficiently use the limited channel resource.

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8. **Claims 16 and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Whitehill in view of Giles, and further in view of US 7433691 B1 White (hereinafter White).

Regarding **claim 16**, Whitehill and Giles discloses the limitations as shown in the rejection of **claim 1**. Whitehill is silent as to the limitation *wherein--a station broadcasts a copy of its locally stored reservation information; and--stations active in the reception range for transmissions of said station compare the received reservation information with their locally stored information and add missing reservations to their locally stored reservation information*. However, it is well known in the art of distributed communication, to broadcast and share information regarding the network operating parameters in order to maintain the ad-hoc state. White discloses such a well known method wherein a station (e.g. node 102) broadcast its locally stored information (e.g. routing table information, analogous to reservation information) so that other stations can receive and update the information and make use of it when transmitting (see at least White column 4 lines 27-41). It would have been obvious to a person of ordinary skill in the art to modify Whitehill and Giles in view of a commonly knowledge in the art evidenced by White in order to maintain the network in the absence of a central controller (e.g. an access point).

Regarding **claim 24**, Whitehill and Giles discloses the limitations as shown in the rejection of **claim 17**. Whitehill is silent as to the limitation *a station broadcasts a copy of its locally stored reservation information; and--stations active in the reception range for transmissions of said station compare the received reservation information with their*

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locally stored information and add missing reservations to their locally stored reservation information. However, it is well known in the art of distributed communication, to broadcast and share information regarding the network operating parameters in order to maintain the ad-hoc state. White discloses such a well known method wherein a station (e.g. node 102) broadcast its locally stored information (e.g. routing table information, analogous to reservation information) so that other stations can receive and update the information and make use of it when transmitting (see at least White column 4 lines 27-41). It would have been obvious to a person of ordinary skill in the art to modify Whitehill and Giles in view of a commonly knowledge in the art evidenced by White in order to maintain the network in the absence of a central controller (e.g. an access point).

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to YU (Andy) GU whose telephone number is (571)270-7233. The examiner can normally be reached on Mon-Thur 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester G. Kincaid can be reached on 5712727922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/YU (Andy) GU/
Examiner, Art Unit 2617

/Lester Kincaid/
Supervisory Patent Examiner, Art Unit 2617